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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,298	05/17/2005	Mark Jozef Willem Mertens	NL 021458	5801
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EXAMINER				
LEE, PING				
ART UNIT		PAPER NUMBER		
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10/09/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/535,298

Applicant(s)

MERTENS ET AL.

Examiner

Ping Lee

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claim 10 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claim specifies "a computer-readable medium". However, the specification as amended discloses that the computer-readable medium may be realized as data stored on a data carrier (p. 1 and p. 13) or transmitted over a signal transmission system (p. 13). Such disclosure of the computer program product does not enable the claimed "a computer-readable medium" falling within the statutory classes of invention. Although an example has been provided to define "a data carrier" as a computer-readable medium, but the specification and claim 10 fails to exclude the computer readable medium from a transitory media.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Childs, Jr. et al. (hereafter Child) (US007138575B2) in view of Sibbald et al. (hereafter Sibbald) (US007167567B1).

Regarding claim 1, Child discloses a data representation apparatus for representing data by means of an audio signal, said data representation apparatus comprising:

an audio processing unit for delivering the audio signal with a characteristic dependent upon a positionless data (Child does not limit the data to any particular field) signal having at least a first value and a second (e.g. Fig. 8B illustrates that the positionless data can be any value between the max and the min).

Child fails to show "a mapping unit for mapping the first value of the positionless data signal to a first position in a three-dimensional space around a user's head, and the second value of the positionless data signal to a second position in the three-dimensional space, wherein the audio processing unit changes the characteristic of the audio signal, resulting in the audio signal appearing, to a user listening to the audio signal, to originate from the first position when the positionless data signal has the first value, and from the second position when the positionless data signal has the second value."

Child suggests that the positionless data could be sonified by using different sound parameters (col. 4, lines 64-67) to expand the user's understanding of the positionless data (col. 1, lines 56-67). In particular, Child suggests that more advanced sound spatialization and localization techniques including HRTF processing can be used (col. 11, lines 18-23). Without providing any specific detail, one skilled in the art would have been motivated to search for the related art. Sibbald teaches a device that uses HRTF to render the 3-dimensional sound at positions around the listener (col. 2,

lines 26-37). Thus, it would have been obvious to one of ordinary skill in the art to modify Child in view of Sibbald by utilizing HRTF in order to provide 3-dimensional sound imaging around the listener.

Regarding claim 2, Sibbald teaches that the audio processing unit comprises a filter for applying a head related transfer functions to an input audio signal to obtain the output audio signal appearing to originate from the first position and the second position (Fig. 8).

Regarding claim 3, Child teaches that said data representation apparatus further comprises a data signal distributor (the line connecting 12 to 14) for delivering the positionless data signal, derivable from a measurement from a measurement device (12), to the audio processing unit.

Regarding claim 4, Child teaches how to maps a collection of nominal values of the positionless data signal to predetermined regions of three-dimensional space (Fig. 10B). By modifying Child in view of Sibbald, the three-dimensional space would be space around the listener.

Regarding claim 5, Sibbald teaches positions on a curvilinear locus in three-dimensional space. By combining Child and Sibbald, the limitations of "maps a collection of numerical values of the positionless data signal to positions on a curvilinear locus in three-dimensional space" is met.

Regarding claims 6 and 7, Child teaches that said data representation apparatus further comprises selection means for enabling presentation of a first set of data signal

values by a first type of the audio signal and a second set of data signal values by a second type of the audio signal (col. 4, lines 39-60 and col. 6, lines 50-58).

Claim 8 defines an apparatus which corresponds to claim 1 as discussed above with respect to Child and Sibbald.

Claim 9 defines a method which corresponds to claim 1 as discussed above with respect to Child and Sibbald.

Regarding claim 10, Child teaches a computer-readable medium (col. 3, lines 22-35).

Response to Arguments

5. Applicant's arguments with respect to claims 1, 8 and 9 have been considered but are moot in view of the new ground(s) of rejection.

6. Applicant's arguments filed 7/27/09 with respect to 101 rejection have been fully considered but they are not persuasive.

Claim 10 defines a computer readable medium. Applicant has amended the specification to provide an example of the data carrier as a computer readable medium. However, this amendment does not exclude the claimed computer readable medium from a transitory media. Therefore, claim 10 is rejected under 101.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ping Lee whose telephone number is 571-272-7522. The examiner can normally be reached on Wednesday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ping Lee/
Primary Examiner, Art Unit 2614

pwl